

SYSTEM OF MULTI-CHANNEL SHARED RESISTOR-STRING DIGITAL-TO-  
ANALOG CONVERTERS AND THE METHOD OF THE SAME

ABSTRACT OF THE DISCLOSURE

System of multi-channel shared resistor-string digital-to-analog converters comprises a time-sharing interpolator converting the multi-channel digital audio input at low sample rate to the multi-channel digital audio output at high sample rate, a time-sharing sigma-delta modulator modulating the multi-channel digital audio input with a long sample wordlength from the interpolator to be a multi-channel digital audio output with a shorter sample wordlength, multi-channel shared resistor-string digital-to-analog converters converting the multi-channel digital audio input to be a multi-channel staircase analog signal output, and one low-order RC filter for each channel further attenuating the out-of-band noise in the analog staircase analog output, especially the high-frequency residue images.